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DOCKET NO. STMI07-02357

PATENT

Customer No. 23990



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re application of: : JOAQUIN TORRES ET AL.  
Serial No. : 10/781,565  
Filed : February 18, 2004  
For : PROCESS FOR FABRICATING AN INTEGRATED  
ELECTRONIC CIRCUIT THAT INCORPORATES AIR  
GAPS  
Group No. : 2811  
Examiner : Cuong Quang Nguyen

**MAIL STOP AMENDMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**CERTIFICATE OF MAILING BY FIRST CLASS MAIL**

Sir:

The undersigned hereby certifies that the following documents:

1. Response to Restriction Requirement; and
2. A postcard receipt.

relating to the above application, were deposited as "First Class Mail" with the United States Postal Service, addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on October 26, 2005.

Date: 10/26/05

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Sir:

**RESPONSE TO RESTRICTION REQUIREMENT**

In response to the Restriction Requirement dated September 26, 2005, the Applicants respectfully select the claims of Group II (Claims 1-12) WITH TRAVERSE. The claims of Group I (Claims 13-17) are withdrawn from consideration without prejudice.

The Restriction Requirement characterizes Claims 1-12 (Group II) as drawn to "a method of making a semiconductor device" and Claims 13-17 (Group I) as drawn to "a semiconductor device." (Restriction Requirement, Page 2). The Applicants respectfully submit that the Restriction Requirement provides no factual basis for asserting either independence or distinctness of these claims. The Restriction Requirement makes the following statements:

The inventions are distinct, each from the other because of the following reasons: Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case unpatentability of the group I invention would not necessarily imply unpatentability of the group II invention, since the device of the group I invention could be made by processes materially different from those of the group II invention, for example 1, forming the air gap by selectively forming insulating layer and the conductive layer instead of remove portions of insulating layer. (Restriction Requirement, Page 2, Paragraph 2).

A restriction requirement must provide the particular factual basis for asserting that restriction is necessary:

The particular reasons relied on by the examiner for holding that the inventions as claimed are either independent or distinct should be concisely stated. A mere statement of conclusion is inadequate. The reasons upon which the conclusion is based should be given. (MPEP § 816, p. 800-56 (8<sup>th</sup> ed. rev. 1 February 2003)).

The Restriction Requirement fails to provide such a factual basis (as opposed to a “mere statement of conclusion”) indicating why the claims recite patentably distinct species--that is, a factual basis for asserting that: “the device of the group I invention could be made by processes materially different from those of the group II invention.” The Examiner has assumed (but not shown) that a semiconductor device having a proper air gap can be successfully formed “by selectively forming insulating layer and the conductive layer.” Therefore, the Examiner has not identified “another materially different process” that does not have the particulars of the method claimed in Claims 1-12.

The Applicants respectfully traverse the Examiner's conclusion for the following reasons. Restriction is only proper where the claims are independent or distinct. MPEP § 806. In passing on questions of restriction, the claimed subject matter must be compared in order to determine distinctness and independence. MPEP § 806.01, p. 800-39. The Restriction Requirement concedes that the claims are not independent but are related ("Inventions II and I are related as process of making and product made").

Claim 1 is directed to a method as follows:

1. A process for fabricating an integrated electronic circuit whereby at least one air gap is formed above only a defined portion of a surface of a substrate, said defined portion being smaller than the surface of the substrate, within an interconnect layer comprising a part of a sacrificial material and extending beneath an intermediate layer of permeable material, interconnect elements being formed within a subpart of said part of sacrificial material of the interconnect layer, and whereby the air gap is formed by removal, through the intermediate layer, of at least said subpart of sacrificial material of the interconnect layer by bringing the permeable material into contact with an agent for removing the sacrificial material, to which agent the permeable material is resistant, said intermediate layer remaining rigidly linked to the substrate outside said defined portion.

Claim 13 is directed to a semiconductor device (an integrated electronic circuit) that requires the use of the method as claimed in Claim 1:

13. An integrated electronic circuit comprising:

- a) an interconnect layer comprising part of a first material covering a surface of a substrate outside a defined portion of the surface of the substrate, interconnect elements located above said portion of the surface of the substrate within one air gap; and
- b) an intermediate layer of a permeable material placed above the interconnect layer, said interconnect layer being rigidly linked to the substrate outside

said defined portion, and the permeable material being different from said first material.

From the foregoing, the Applicants respectfully submit that it is clear that only a “method” of the type claimed in Claim 1 can make the semiconductor device as claimed in Claim 13. That is, there is not “another materially different process” that can perform the method of the invention as claimed in the Group II claims. Therefore, the Restriction Requirement accordingly has failed to establish that the semiconductor device as claimed in Claims 13–17 could be made by another materially different process than the process as claimed in Claims 1–12.

With regard to the assertion that “Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper,” the Restriction Requirement fails to provide any factual basis for such conclusion.

With respect to distinctness of Claims 1–12 from Claims 13–17, the Restriction Requirement fails to satisfy any of the requirements for restricting the claims of the patent application. Accordingly, the Applicants respectfully request that the restriction be withdrawn.

**SUMMARY**


If any issue arises, or if the Examiner has any suggestions for expediting allowance of this application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number indicated below or at *wmunck@davismunck.com*.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

DAVIS MUNCK, P.C.

Date: 10/26/05

  
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